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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/750,342

12/31/2003

Jagrut Viliskumar Patel

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EXAMINER

BHAT, ADITYA S

ART UNIT

PAPER NUMBER

2863

NOTIFICATION DATE

DELIVERY MODE

04/08/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/750,342	Applicant(s) PATEL ET AL.	
	Examiner ADITYA S. BHAT	Art Unit 2863	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-11,14-22,25-30 and 33-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,8-11,17-22,28-30 and 33-36 is/are rejected.
- 7) ☒ Claim(s) 5-7,14-16 and 25-27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Status

1. Claims 1-2, 5-11, 14-22, 25-30 and 33-36 are currently pending in this application.

Priority

2. Applicant claims benefit of provisional application 60/525103 filed 11/24/2003.

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/29/2008 has been entered.

Drawings

4. The drawings submitted on 9/19/2005 are in compliance with 37 CFR § 1.81 and 37 CFR § 1.83 and have been accepted by the examiner.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 8-11, 17-22, 28-30 and 33-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luick (USPUB 2003/0229662) in view of Conn Jr. (USPN 5,795,068)

With regards to claim 1, 10 and 30, Luick (USPUB 2003/022962) teaches a method, a processor and a computer readable program for determining an operating parameter of a chip having first and second ring oscillators, comprising:

measuring a frequency of the first ring oscillator; (Refer to figure 6)
measuring a frequency of the second ring oscillator; (Refer to figure 6) and
calculating an temperature of the chip as a function of the first and second ring oscillator frequencies. (Refer to figure 6)

With regards to claim 2, 11 and 22, Luick (USPUB 2003/022962) teaches obtaining two ring oscillator clock counts, separated by a time difference, from a ring oscillator; obtaining two independent clock counts, separated by the time difference, from a clock output independent from the ring oscillator; and calculating a ratio of the difference between the two ring oscillator clock values and the difference between the two independent clock values. (Page 4, Paragraph 0056)

With regards to claim 8, 17 and 28, Luick (USPUB 2003/022962) teaches calculating a scaled frequency value from the first and second measured ring oscillator frequencies and characterization data of the chip; comparing the calculated scaled frequency value with a known range of scaled frequency values relative to temperature; and determining, from the comparison, the actual temperature of the chip. (Page 4, Paragraph 0056)

With regards to claims 9, 18 and 29, Luick (USPUB 2003/022962) teaches calculating a scaled frequency value from the first and second measured ring oscillator frequencies and characterization data of the chip; comparing the calculated scaled frequency value with a known range of scaled frequency numbers relative to process speed; and determining, from the comparison, the process speed of the chip. (Page 4, Paragraph 0056)

With regards to claims 19, Luick (USPUB 2003/022962) teaches a system comprising:

a chip having first and second ring oscillators; (Page 4, Paragraph 0056) and
a processor configured to:

measure a frequency of the first ring oscillator; (Refer to figure 6)

measure a frequency of the second ring oscillator; (Refer to figure 6) and

calculate temperature of the chip as a function of the first and second ring oscillator frequencies. (Refer to figure 6)

With regards to claims 20, Luick (USPUB 2003/022962) teaches the chip comprises the processor. (Refer to figure 7)

With regards to claims 21, Luick (USPUB 2003/022962) teaches the processor is separate from but operably connected to the chip. (Refer to figure 7)

Luick (USPUB 2003/022962) does not appear to teach determining an actual temperature of the chip

Conn Jr. (USPN 5,795,068) teaches determining an actual temperature of the chip. (Col. 5, lines 55-57)

With regards to claims 33-36, Luick (USPUB 2003/022962) does not appear to teach determining a process speed of the chip in response to the temperature.

Conn Jr. (USPN 5,795,068) teaches determining a process speed of the chip in response to the temperature.(col. 1, lines 12-15)

It would've been obvious to one skilled in the art at the time of the invention to modify the Luick invention to determine the actual temperature and determine the process speed of the chip in relation to the temperature in order to optimize chip performance.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 10, 19 and 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Conn Jr. (USPN 5,795,068).

With regards to claim 1, 10, 19 and 30, Conn Jr. (USPN 5,795,068) teaches a method, a processor and a computer readable program for determining an operating parameter of a chip having first and second ring oscillators, comprising:

measuring a frequency of the first ring oscillator (114); (Refer to figure 1)

measuring a frequency of the second ring oscillator (124); (Refer to figure 1) and

calculating an temperature of the chip (100) as a function of the first (114) and second (124) ring oscillator frequencies. (Col. 3, lines 17-20)

Allowable Subject Matter

9. Claims 5-7, 14-16 and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Please see applicants response dated January 29, 2008 for reasons for allowance.

Response to Arguments

10. Applicant's arguments filed 1/29/2008 have been fully considered but they are not persuasive.

Applicant is reminded that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification."

Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

While the meaning of claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonably allowed. This means that the words of the claim must be given their plain meaning unless applicant has provided a clear definition in the specification. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). In this instance applicant argues that the prior art of record does

not teach calculating a actual temperature of the chip based on the frequency of two oscillators and it is not proper to combine the prior art references to arrive on the claimed invention as it could only be done so with hindsight reasoning.

On page 10 paragraph 4 of applicant's arguments, applicant states that the Luick is directed to determining hot spots among several processors... In one embodiment the frequency of one ring oscillator is subtracted from the frequency of a second oscillator and if the difference exceeds *a threshold* it is determined that the chip has a hot spot. Applicant uses this interpretation to argue that the Luick reference never actually calculates a temperature or is it possible to do so from the difference of the frequencies. Examiner respectfully disagrees as applicant is interpreting the claim language in applicant's claims with a very narrow interpretation. The threshold applicant refers to must be some value that corresponds to a certain temperature in order for one to determine whether a hot spot has occurred. While it might not necessarily be a exact value such as 40 or 100 degrees centigrade. It would certainly tell you a range e.g. the temperature is above 40 or 100 degrees centigrade. This can also be interpreted as actual temperatures.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include

knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper.
See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Carr (USPUB 2003/0204354) teaches a apparatus and method for determining effect of on-chip noise on signal propagation.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aditya S. Bhat whose telephone number is 571-272-2270. The examiner can normally be reached on M-F 9-5:30.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Aditya Bhat/ March 29, 2008
Examiner, Art Unit 2863